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Tribes of Koraput District

(Their pre-agricultural economic life)

N. Patnaik

Introduction

The district of Koraput is located between 20°3' and 17°50' North latitudes and 81°27' and 84°1' East longitudes. It is bounded on the North by Kalahandi and Raipur districts, on the East by Srikakulam and Ganjam district on the South by East Godavari and Visakhapatnam districts and on the West by Bastar district. In area it is 27,000·00Sq. Kms. and the largest district in Orissa. According to the 1971 census the district had a population of 2,043,281 which has increased to 2,467,329 in 1981 census. The Annexure I gives the growth rate of different districts. It is seen that the decennial growth rate in 1971—81 has diminished to 20·75 per cent as compared with its corresponding figure in 1961—71 which was 30·89 per cent. The density of population in the district is 92 per Sq. Km. while the corresponding figure for the State as a whole is 169.

Koraput is a land of geographical diversities. Broadly it can be divided into four distirct geophysical regions all of which form part of the southern section of the great line of the Eastern Ghats. The Natural divisions are, (1) Rayagada and Gunupur division, (2) Koraput division, (3) Jeypore and Nawarangpur division and (4) Malkangiri division.

Rayagada and Gunupur Division

The Rayagada and Gunupur division comprises the tahasils of Bissam-cuttack, Gunupur, Rayagada and Kasipur. It is a 1,000 ft. plateau comprising parallel valleys of two rivers, the Vansadhara and the Nagavali and ranges of high hills and rugged terrain. There are large tracts of forests containing some of the most valuable species of timber with a few patches of cultivable land dotted here and there in the area. This natural division receives lower rainfall than the other three divisions due to its location in the rain shadow of the South-West monsoon.

Koraput Division

The Koraput natural division is a 3,000 ft. plateau extending from Kasipur tahasil to the border of East Godavari district. The main features of this division are the line of high hills of the Deomali, (5,486 ft.) the highest peak in Orissa and the valley and table land of Pattangi which can be compared in natural resources and scenic beauty with the Lambordy plain of the Alps. This valley is most suitable for cultivation of citrus and other temperate fruits and of all kinds of vegetables throughout the year. Deforestation's relentless march has steadily stripped the most of the area bare of its forest cover. This section is drained by the Indravati, the Kolab and the Machkund rivers and never experiences the extreme heat of the summer due to its elevation.

Jeypore and Nawarangpur Division

The Jeypore and Nawarangpur division is otherwise known as 2,000 ft. plateau which covers the whole of Nawarangpur subdivision. It is almost a flat country except for the forests in the west of Jeypore tahasil and a few isolated hills of low height. Vast stretches of thick forests teeming with Sal trees are the speciality of this region. The north-east monsoon rarely favours this plateau and in consequence the area becomes dry and hot in the summer season and people feel acute scarcity of water. Nevertheless the soil is fertile and people grow paddy, wheat, sugarcane, and vegetables in fair quantity.

Malkangiri Division

The eastern section of this Malkangiri natural division forms a 3,000 ft. plateau and the rest of it declines from an elevation of 800 ft. to 400 ft.

A number of rocky wooded hills spotted throughout the region breaks the monotony of the plain. The rape of the forests is as conspicuous in this region as elsewhere. This tract is notably malarious, because swampy in rainy season and the summer here is very hot.

This district of Koraput is famous for its tribal population which comprises according to the 1971 census 56·34 per cent (1,151,232 Scheduled Tribe population) of its total population. Tribes of both South Munda and predravidian language groups are found in the district and out of 62 tribal communities of Orissa there are as many as 57 of them inhabiting the district in varying numbers. The list of the tribes with population is furnished in Annexure II. The list shows that there are three major tribes namely Kondh, Bhottada and Paroja which exceed one lakh population each. Among them the Kondh having 325,144 population top the list and the other two tribes comprises 190 979 and 193,736 population respectively.

The next in order of numerical strength are the Gond, the Bhumia, the Koya, the Gadaba, the Sabar or Lodha and the Saora which vary in population range from 28,000 to 67,000. Two tribes namely the Bondo Paroja and the Didayi which have each such a small population as 5,334 in the case of the former and 2,164 in the case of the latter are found no where else except in Koraput district and being at the level of pre-agricultural technology they are regarded as the most primitive communities.

The tribal communities are found in varying concentration in different natural divisions of the district. Their distribution in different geophysical sections with population is given in Annexure III. The distribution shows that the Rayagada and Koraput divisions are the main stronghold of the Kondh and only Rayagada of the Saora and the Sabar, Koraput and Nawarangpur divisions of the Paroja and only Nawarangpur of the Bhottada. The divisions where the Gond are in large concentration is Nawarangpur and the Gadaba are confined to Koraput and Nawarangpur divisions exclusively. In general some of the major tribes like the Saora, the Bhottada, the Koya, the Gond and the Omanatya are found in specific areas, whereas others such as the Kondh and the Paroja are spread more widely than the Gadaba and the Bhumia.

Like the major tribes some of the minor tribes who fall to the population range of 1,000—10,000 are widely spread and others are confined to specific areas. For example, the Kondadara, the Kotia, the Dharua and the Holva are found in more than one natural regions where as the Jatapu are confined exclusively to Rayagada; the Bondo Paroja and Didayi to Malkangiri; the Parenga to Koraput and the Pentia to Nawarangpur divisions. The most primitive among them like the Bondo Paroja and the Didayi are found living in an isolated pocket within their main natural region. What is most fascinating about these tribes is their archaic productive technology and adaptive strategy of holding on to an eco-cultural niche of their own with very little symbiotic socio-economic articulation with the surrounding dominant peasantry. The following section deals in detail about the tribal life in the prior stage of economic development.

General Review of Shifting Cultivation

Shifting cultivation is any continuing agricultural system in which impermenent clearings either in the hill-slope or at the hill-top are cropped for shorter periods in years than they are fallowed. The practice of shifting cultivation is a world-wide phenomenon particularly in the tropical and sub-tropical regions of the world and there are evidences to show that it is in existence since the neolithic times. It is known as sartage in Ardennes, as farming in West Africa, as Kchola in the south-east Solomon Islands, as Chena by the Vedda.

In India, the dahi and kaman cultivation among the Hill Bhuinyas, the penda among the Maria of Bastar, the jhum of the tribes of north-eastern hill areas, the podu of the Kondh, and the bewar of the Baiga are all more or less akin to shifting cultivation.

Where light scrub and grass land is cleared for cultivation the practice is called hoe and burn tillage.- In deciduous forests slash and burn clearing technique is practised. In continually drenched jungle slash and mulch technique is followed for growing crops.

It is estimated that about 14 milion square miles are under shifting cultivation in the entire world and about 200 million people are practising it. Compared with the global picture the area under shifting cultivation in Orissa is about 10,539 square miles or 23,72,705·028 hectares of land. About 91 per cent of this area lie in

Southern Orissa and only 9 per cent in Northern Orissa. A rough estimate shows that 6,47,000 people in Southern Orissa and 59,412 people in Northern Orissa practise this cultivation. Roughly 7 per cent of the tribal population of the State carry on shifting cultivation.

All activities connected with shifting cultivation are performed mostly by communal labour. The land under shifting cultivation belongs to the village. The village elders decide at the village meeting which site they should cultivate. Thereafter on an appointed day they assemble at the site and distribute the land among themselves according to their requirements.

The field work connected with shifting cultivation begins with forest-clearing. Most of the tribal communities cut the trees high above the ground leaving the stools of about 2 ft. in height. But some tribal communities cut the trees flush with the ground. The Hill Bhuinyas of Northern Orissa pile dried leaves and branches at the base of the trees and set fire to them to kill the trees. These dead trees are left standing in the swiddens to serve as bean stalks.

The tribes everywhere in Orissa plough the swiddens by means of a hoe tipped with an iron point. Dibbling of *Cajanus Cajan* (Red gram-Kandula) in the holes made in rows by means of a dibble preceeds the sowing of seeds of mixed crops of millets such as *Penicum Millare, Penicum Italicum, Sorghion vulgare, Pennisetum Typhoides,* Pulse crops of *Cajanus Indicus, Dolichos Biflorus:* and bean crops such as Jhudang and Barubudi are also sown with the millets.

The tribals also grow oil-seeds like *Abysinia Guzotica* and *Sesamum Indicum* in the swiddens.

Except the Juang and the Bhuinya of Northern Orissa no other tribe grows paddy in the swiddens. In some areas particularly in Southern Orissa the Saoras and the Khonds grow valuable commercial crops such as turmeric and ginger in the swidden.

Shifting cultivation implies a cultivation cycle in which a strip of land is brought under swidden system of cultivation for two to three years and after this the clearing is abandoned for five to 10 years before it is re-utilised. The classical explanation of this rotational phenomenon is that the repeated cutting and burning of the vegetational cover causes soil erosion and consequent loss of soil nutrients. The diminishing returns from the swiddens are cited as the proof of such conditions which necessitate to keep the old site follow to recuperate and shift to a new site for cultivation. This explanation is largely given by the enlightened persons.

Anthropological enquiries into the opinion of those who are practising swidden cultivation and direct observation of labour input in such cultivation reveal that the amount of work involved in various intercultural practices outweigh the yield as time passes at an increasing rate and therefore it is the labour input and not the soil erosion or nutrients loss which compels shifting.

As indicated above, swidden system is characterized by a period of cultivation and a period of fallow. The duration of these two periods is determined by two types of culivation-protein-rich seed-culture and starch-rich root or millet crops of vegeculture. When protein-rich seed-crops are grown, more nutrients are needed in the ashes, litter and soil than when starch-rich root-crops are cultivated. It is for this reason that the seed-crops require longer fallow periods for the restoration of soil fertility than the root or millet crops.

The seed-culture system tends to become ecologically maladapted when population increases. For this reason in the regions where the seed-cropping was traditionally dominant there has been a shift from seed-culture to vegeculture. Both the pressure of population and change in cultivation have been responsible for the shortening of the fallow period. Moreover these conditions have obliged the swidden cultivators to look for protein-rich sources of food supply such as hunting or fishing or animal husbandry.

Plant diversity is greater and plant stratification is more intricate in vegeculture than in seed-culture. Therefore growing of mixed crops is rather the rule than exception under the vegeculture swidden system of cultivation.

The mixed cultivation offers many advantages. From the economic point of view, the harvest is a sequential one which enables the swidden cultivators to use something on foodgrains and something for clearing debt. General observation of tribal agriculture point out that the sequential harvesting of mixed crops under multiple cropping pattern allows greater freedom from money-lenders than the single harvesting system under mono-cropping pattern. However, this point requires detailed investigation to find out the nature of relationship between the money-lenders and swidden cultivators.

From the agricultural point of view mixed cropping is a form of pest control. Distances in space and time between co-specific plants allows them some escape from hast-specific herbivores. In any case both from an agricultural and economic point of view mixed cropping is a way of spreading risk. What advantages does the mixed cropping swidden cultivation offer to the ecosystem so far as its stability and maturity are concerned is a matter which requires intensive investigation.

The tribes identify the months on the basis of the principal activities carried out in those months. For example, the Saoras call the month of February as *Nivagae* which means that it is the month in which firewood is collected from the swiddens. The month of September is called *Tisargae* because it is in this month that weeding (tisar in Sora language) is taken up. The work-load concerning shifting cultivation—varies from month to month in different regions among different tribes. For example, the months of January, September, October and November record the heaviest work and February, March and December moderately heavy and April, June, July and August lighter work among the Saoras of Koraput and Ganjam. In contrast the months which record the heaviest work among the Kondhs of Kalahandi are February, March, April and June whereas the corresponding months are August, October, December and January in the case of the Bhuinya of Keonjhar. The monthly variations in work-load are determined by the environmental conditions and locational peculiarities which govern cropping patterns and activities of people.

Several objections are raised against the swidden system of cultivation. Some of the important points of view from which it is criticized are decimation of vegetational cover and high siltation of river beds, transformation of fertile and productive lands into barren lands and unproductive swamps and deserts and conversion of tigers into maneaters and of elephants into rogues.

There are several such arguments and counter arguments regarding the practice of shifting cultivation. One view is that the tribal people are established in the practice of shifting cultivation from the time beyond memory and it is not only a way of life but also best adapted to their habitat. Moreover, the slash and burn method of tillage is inextricably linked with food habits. Among the shifting cultivation the major bulk of protein content in their diet is obtained from vegetable sources. Swidden is the most important source of vegetable protein among the shifting cultivators. The plain lands under wet cultivation yield starch and carbohydrate-rich cereal crops such as paddy and ragi whereas the swiddens yield protein-rich seed-crops. In such a situation any measure which discourages shifting cultivation without providing alternative sources of vegetable protein is sure to aggravate protein deficiency and do more harm than good to the shifting cultivators.

The shifting cultivation has a direct bearing on environmental conditions. Referring to the tropical rain forests many research scholars have pointed out that in contrast to soils in temperate climates, the soils in tropical forests do not stock the essential plant nutrients ; these are concentrated in plants and trees and only swidden methods can return them to the soil and permit a renewed crop growth.

A comparison between intensive cultivation methods and the swidden system of agriculture shows that the former is no less dangerous than the latter. Intensive cultivation methods imply heavy dose of fertilizer input which instead of doing good to the plants, could accelerate soil erosion in many cases. Tropical soils are often very poor nutrient reservoir. Leaching is rapid and the chemical fertilizers lie deep down as a layer of unweathered rock. Under this condition, it is necessary to apply chemical fertilizers frequently in large quantities for plant growth. The consequences of the intensive fertilizer input are the abortive cost of labour input and increasing toxicity which makes the acid soil more acidic.

A general review of the demography of Orissa shows that the densely populated areas are coterminous with agriculturally intensive zones and sparcely populated areas are coterminous with areas which are under shifting cultivation. There appears to be a direct correlation between demographic pressure and agricultural intensification.

In some tribal areas man-land ratio has been disrupted. One of the causes of this disruption is the increase of population beyond the carrying capacity of land under shifting cultivation. The truth in this is partial.

Extra population from the areas of agricultural intensification in the plains has infiltrated into the hills and has exerted unusual pressure on the indigenous population and resources of their habitat. Perennially drained fertile strips of land in valley bottom are now utilized for growing crops by applying intensive and improved agricultural practices. The adjoining non-tribal communities have a substantial share in the produce from shifting cultivation without contributing any labour in the process of raising crops. These and many other factors need to be taken into consideration while studying the problems of demographic pressure and swidden cultivation.

COVERAGE UNDER SHIFTING CULTIVATION

The practice of shifting cultivation is a world-wide phenomenon and there are evidences to show that it is in existance since the Neolithic times. It is estimated that about 14 million Sq. miles of area are under shifting cultivation all over the world and nearly 200 million people are practising it either as a primary or subsidiary source of livelihood.

Nearly three decades ago Dr. H. F. Mooney, Chief Conservator of Forests of Orissa had made an eye estimation of area under shifting cultivation in Orissa. According to him the extent of coverage under shifting cultivation was about 12,770 Sq. miles or 1/5 of the total land surface of the State and nearly 935,700 tribal people were dependent on this method of cultivation.

Fairly accurate information regarding the extent of the area under shifting cultivation can be obtained from the vegetation maps of India which have been prepared by the Institute Francis, Pandicherry, India. The measurement of the patches shown in the map under shifting cultivation in different vegetational zones comes to about 2,579,333·534 or 25,793·335 Sq. Kms. which means that about 17 per cent of the total geographical area of the state which is 1,55,842·00 Sq. Kms. is affected by shifting cultivation. The coverage under shifting cultivation which is stated here in this section includes not only the swidden plots but also immediate adjacent areas which are seriously affected by the practice of shifting cultivation. The hectareage under shifting cultivation in different vegetational zones is given in the Table 1.

TABLE 1

Shifting cultivation in different vegetational zones

Sl. No. (1)	Vegetational Zones (2)	Area in hectares (3)
1	Moist vegetation type SHOREA-TERMINALIA-ADINA series (Sal-Asana-Kuruma).	1,367,517·937
2	Moist vegetation type SHOREA-SYZYGIUM-OPERCULATUM series (Sal-Jamu and trees grown in areas where forest falls).	5,21,741·561
3	Dry vegetation type SHOREA-BUCHANANIA-CLEISTANTHUS series (Sal-Chara-Karada).	2,65,377·482
4	Dry vegetation type Terminalia-Anogeissus-Cleistanthus series (Asana-Dhaura-Karada). ..	33,536·308
5	Moist vegetation type TOONA-GARUGA series-(Toon Kekat) ..	83,840·770
6	Dry vegetation type TECTONA-TERMINALIA series (Saguan-Asana) ..	2,77,319·476
	Total ..	25,79,333·534

The land under shifting cultivation within the sub-plan area is 22,22,705·028 hectares or 22,227·05 Sq Kms. It means that about 32 per cent of the sub-plan area of the State is covered under shifting cultivation. More than 90 per cent of this coverage is in the sub-plan area of Southern Orissa and less than 10 per cent in the corresponding area of Northern Orissa. The area under shifting cultivation in different vegetational zones of sub-plan area both in Northern and Southern Orissa is given in Table 2.

TABLE 2

Coverage under shifting cultivation in the sub-plan area of Southern and Northern Orissa

Regions (1)	Vegetational Zones (2)	Area in hectares (3)
1. Southern Orissa ..	Moist vegetation type Shorea-Terminalia-Adina series ..	12,95,625·940
	Dry vegetation type Shorea-Terminalia-Cleistanthus series	1,11,240·108
	Dry vegetation type Toona-Garuga series ..	89,000·616
	Dry vegetation type Tectona-Terminalia series ..	1,85,740·416
	Dry vegetation type Terminalia-Anogeissus-Cleistanthus series.	33,536·464
	Moist vegetation type Shorea-Syzygium-Operculatum-Toona-series.	2,92,154·196
	Total ..	20,07,297·740 (90·3 %)
2. Northern Orissa ..	Moist vegetation type Shorea-Terminalia--Adina series ..	1,289·864
	Moist vegetation type Shorea-Syzygium-Operculatum .. series.	2,14,117·424
	Total ..	2,15,407·288 (9·7 %)
	Grand Total ..	22,22,705·028

The sub-plan area has been subdivided into several project areas called I. T. D. A. The coverage under shifting cultivation varies from one I. T. D. A. to the other. The Table 3 shows the coverage under shifting cultivation in different I. T. D. As.

TABLE 3

Coverage under shifting cultivation in different I. T. D. As.

Sl. No. (1)	I. T. D. A. (2)	Total geographical area in Sq. Kms. (3)	Area under shifting cultivation in Sq. Kms. & percentage (4)	Percentage of 4 to 3 (5)
1	Koraput district—			
(1)	Gunupur ..	2,941·29	2,318·2 (10·43%)	78·81
(2)	Jeypore ..	3,302·40	232·17 (1·04%)	7·03

Sl. No.	I. T. D. A.	Total geographical area in Sq. Kms.	Area under shifting cultivation in Sq. Kms. & percentage	Percentage of 4 to 3
(1)	(2)	(3)	(4)	(5)
(3)	Koraput ..	3,335·40	1,954·14 (8·79%)	58·58
(4)	Malkangiri ..	5,936·00	2,979·58 (13·40%)	50·19
(5)	Nawarangpur ..	5,148·00	1,206·02 (5·43%)	23·42
(6)	Rayagada ..	3,310·10	2,283·05 (10·27%)	68·97
	Total ..	23,973·19	10,973·47 (49·36%)	45·80
2.	Phulbani district			
1.	Baliguda ..	6,364·80	4,675·75 (21·04%)	73·46
2·	Phulbani ..	2,017·60	993·19 (4·47%)	49·22
	Total ..	8,382·40	5,668·94 (25·51%)	67·62
3.	Kalahandi district			
1.	Thuamul-Rampur ..	1,324·00	1,076·82 (4·84%)	81·33
4.	Ganjam district			
1.	Paralakhemundi ..	2,980·11	2,354·00 (10·59%)	78·99
5.	Sambalpur district			
1.	Kuchinda —	2,367·00	12·89 (0·06%)	0·54
6.	Keonjhar district			
1.	Keonjhar (Bhuinyapirh and Juangpirh) ..	4,431·95	1,296·31 (5·83%)	29·27
7.	Sundargarh district			
1.	Bonaigarh ..	3,356·07	844·86 (3·81%)	25·17
	Total —	46,815·35	22,226·99 (100·00%)	47·48

It is seen from the table that shifting cultivation is present in 13 out of 21 I. T. D. As. The absolute figures, about 22,227 Sq. Kms. of these 13 I. T. D. As. whose total geographical area is about 46,815 Sq. Kms. are covered under shifting cultivation. It means that roughly 47 per cent of total geographical area of the 13 I. T. D. As. are affected by shifting cultivation.

The I. T. D. As. where shifting cultivation is not practised are Baripada, Kaptipada, Karanjia, and Rairangpur of Mayurbhanj district, Panposh and Sundargarh of Sundargarh district, Champua of Keonjhar district and Nilgiri of Balasore district. All these 8 I. T. D. As. are located in Northern Orissa. Only three I. T. D. As. of Northern Orissa show presence of shifting cultivation. In contrast to this all the 10 I. T. D. As. located in Southern Orissa have shifting cultivation in varying extent.

The coverage under shifting cultivation is very vast in such I. T. D. As. as Thuamul-Rampur (81·33 per cent), Paralakhemundi (78·99 per cent), Gunupur (78·81 per cent) and Baliguda (73·46 per cent). Next in order are Rayagada (68·97 per cent), Koraput (58·58 per cent), Malkangiri (50·19 per cent) and Phulbani (49·22 per cent). The coverage under shifting cultivation in the remaining two I. T. D. As. of Southern Orissa that is, Jeypore and Nowarangpur, is not very extensive. It is 7·03 per cent in the case of the former and 23·42 per cent in the case of the latter.

As regards the three I. T. D. As. of Northern Orissa Keonjhar records 29·27 per cent, Bonaigarh 25·17 per cent and Kuchinda 0·56 per cent of their respective total geographical areas under shifting cultivation. Though the coverage is not of any great magnitude as in the case of most of the I. T. D. As. in Southern Orissa, the Biringa or Kaman cultivation of the Juang and the Paudi Bhuinya of Keonjhar are of great importance from the point of view of anthropology and of such cultivation.

The major and primitive tribes who inhabit the I. T. D. As of Southern Orissa are the Khond, the Saora and the Bonda. Their counterparts who live in the I. T. D. As of Northern Orissa are the Paudi Bhuinya and the Juang. Precisely they are the ones who are noted in the state for their extensive practice of axe cultivation and for their emotional attachment to it as the symbol of their culture and society. Based on the vegetation map of a rough estimate was made to find out the number of villages and the total population which are affected by shifting cultivation. The Table 4 gives the requisite information in this regard.

TABLE 4

Sl. No.	I. T. D. A.		No. of villages	Total population	Affected by shifting cultivation	
					No. of villages and percentage (within bracket)	Total population and percentage (within bracket)
(1)	(2)		(3)	(4)	(5)	(6)
1	Gunupur	..	1,403	261,022	1,105 (78·75)	181,827 (69·65)
2	Jeypore	..	554	358,890	51 (9·37)	28,299 (7·88)
3	Koraput	..	1,244	390,292	693 (50·70)	205,661 (52·69)
4	Malkangiri	..	795	268,866	495 (62·26)	153,803 (56·46)

Sl. No.	I. T. D. A.	No. of villages	Total population	Affected by shifting cultivation	
				No. of villages and percentage (within bracket)	Total population and percentage (within bracket)
(1)	(2)	(3)	(4)	(5)	(6)
5	Nawarangpur	849	521,901	321 (37·80)	168,344 (32·25)
6	Rayagada	1,166	250,311	9,049 (77·53)	1,86,989 (74·70)
	Total	6,011	2051,282	3,569 (59·37)	924,923 (45·08)
7	Baliguda	2,169	281,656	2,000 (92·53)	270,958 (96·20)
8	Phulbani	1,224	111,001	670 (54·73)	58,979 (53·13)
	Total	3,393	392,657 (78·69)	2,670 (78·69)	329,937 (84·02)
9	Thuamul-Rampur	743	77,054	590 (79·40)	72, 77 (93·67)
10	Parlakhemundi	1,527	208,872	1,197 (78·38)	161,567 (77·34)
11	Kuchinda	507	162,989	5 (0.98)	1,089 (0·66)
12	Keonjhar	1,127	468,028	244 (25·69)	82,820 (17·69)
13	Bonaigarh	553	177,064	83 (15·00)	29,904 (16·08)

The table shows that the proportion of villages affected by shifting cultivation varies from 92·53 per cent in Baliguda to 9·37 per cent in Jeypore in Southern Orissa and from 25·69 per cent in Keonjhar to 0·98 per cent in Kuchinda in Northern Orissa. The proportion of population affected by and associated with shifting cultivation varies from 96·20 per cent in Baliguda to 7·88 per cent in Jeypore. The coverage in terms of villages and population is also vast in the cases of Gunupur, Rayagada, Thuamul-Rampur and Parlakhemundi I. T. D. As.

Some findings of Universal Bench Mark Survey relating to Shifting Cultivation.

A Bench Mark Survey was conducted in 1978-79 covering all the households, hamlets and villages in the area under tribal Sub-Plan of the State. The data collected in this survey reveal that not only Scheduled Tribes but also Scheduled Castes and other castes carry on shifting cultivation in Koraput district. The Annexure-IV gives the distribution of households belonging to Scheduled Tribes, Scheduled Castes and other castes under four categories of information. The Annexure shows 27·51 per cent of the tribal households (addition of figures under column 3 & 5) practise shifting cultivation in Koraput district. The corresponding figures for the Scheduled Castes and other castes are 7·01 and 9·29 respectively. It is interesting to note that the percentage of households belonging to other castes which carry on shifting cultivation is greater than the corresponding percentage in the case of Scheduled Castes.

Shifting cultivation is practised more or less by all the 3 categories of communities in all the 6 I.T.D.As. of Koraput district. The distribution of households belonging to Scheduled Tribes, Scheduled Castes and other castes practising shifting cultivation in 6 I.T.D.As. of the district is furnished in Annexure-V. The Scheduled Tribes carry on this type of shifting cultivation by 49·31 per cent in Rayagada I.T.D.A. The next I.T.D.As. in order are Koraput where shifting cultivation is practised by 44·62 per cent and Gunupur by 44·50 per cent of tribal households.

As regards Scheduled Castes Koraput I.T.D.A. presents 18·85 per cent of Scheduled Castes practising shifting cultivation. The corresponding percentage of Scheduled Castes households practising shifting cultivation in other I.T.D.As. varies from 2·86 per cent to 8·22 per cent. Like the Scheduled Castes, other castes practice shifting cultivation in greater percentage (19·63 per cent) in Koraput I.T.D.A. Next I.T.D.A. in order of percentage (14·52) is Malkangiri. The proportion of Scheduled Castes practising shifting cultivation in other I.T.D.As. varies from 3·81 per cent to 7·52 per cent.

As indicated above data concerning shifting cultivation have been classified under four categories of information:—(1) No land with no shifting cultivation (column 2), (2) No. land but practising shifting cultivation (column 3), (3) Land with no shifting cultivation (column 4) and (4) With land with shifting cultivation column 5). The category "Land with no shifting cultivation" records greater percentage of households irrespective of communities. It is followed by the category "No land with no shifting cultivation" which records the next higher percentage. This is also irrespective of communities. On the whole, the data shows that persons having land are more likely not to taken up shifting cultivation. But surprisingly enough the data show that there is a sizable percentage of households belonging to three different communities which do not practice shifting cultivation. It indicates sufficiently that lack of land is not coupled with practice of shifting cultivation.

ANNEXURE I

Decennial growth rate (percentage) in different districts ***1961—71*** *and* ***1971—81***

(1)	1961—71 (2)	1971—81 (3)	Difference (4)
Orissa	25·05	19·72	5·33
Balasore	29·28	23·09	6·19
Balangir	18·24	14·96	3·28
Cuttack	24·96	20·64	4·32
Dhenkanal	26·04	21·84	4·20
Ganjam	22·50	15·65	6·85
Kalahandi	22·92	14·26	8·66
Keonjhar	28·55	16·14	12·41
Koraput	30·89	20·75	10·14
Mayurbhanj	19·12	9·96	9·16
Phulbani	20·85	14·65	6·20
Puri	25·51	24·39	1·12
Sambalpur	22·29	23·27	·98
Sundargarh	35·87	29·69	6·18

ANNEXURE II

Tribes of Koraput district

Tribes (1)	Population 1961 (2)	1971 (3)	Tribe with population returned only in 1971 (4)	
Khond	271,698	325,144		
Bhottada	157,768	190,979	Desua Bhumij	3
Paroja	141,694	193,736		
Gond	55,272	66,991	Bhunjia	1,635
Koya	53,590	58,912		
Bhumia	49,584	61,501	Ghara	16
Gadaba	42,560	46,237	Kandha Gauda	532
Saora	36,329	28,359		
Kondadora	15,808	8,129	Kolh	3,561
Omanatya	14,145	17,245	Kora	25
Jatapu	10,583	7,802	Madia	658
Parenga	6,702	3,029	Mankidi	22
Munda	5,892	1,517	Oraon	18
Dharua	4,888	6,318	Sabara or Lodha	35,490
Bondo Paroja	4,677	5,334		
Pentia	4,112	4,349		
Holva	3,991	5,501		
Kotia	3,447	7,022		
Didayi	1,978	2,164		
Bagata	1,374	21		
Matya	119	2,594		
Santal	990	1,677		
Mahali	947	110		

Role of Tribal Women in Home making

B. Sadangi, R. Panigrahi
and S. K. Rout

Women constitute a significant position of the labour force in India. In the 7th Plan starting from 1985, much emphasis has been given on the utilisation of women power in the development of Indian economy in the process of man power planning. The tribal women in particular constitute a neglected bulk of potentially efficient folk in the distant hilly areas and need immediate attention of the Government. Lack of education being felt as an important constraint, continuing five-year plan would be to inculcate confidence among women and bring about an awareness of their own potential for development, as also their rights and privileges. The various mass communication media and other agencies would be utilised extensively in this task.

In order to improve the existing skills of women and imparting to them new skills under the programmes of farmer's training, exchange of development, fodder production, post-harvest technology, application of pesticides, budding and grafting, training in horticulture, fishery, poultry, dairy, social forestry, cooking, child care, home craft and health, a new scheme, namely Women Development Corporation (W.D.C.) will come up in future for promoting employment generating activities. But it is highly essential on the part of the planners to measure the present statusquo of the women section. These facts will help to know the gap and the quantum of effort required. Keeping this in view, this research work was undertaken with the following objectives :

1. To study the present socio-economic status of tribal women.
2. To measure their contribution to the different aspects of home making.

Methodology :

Mayurbhanj district was taken purposively as it is predominantly inhabited by tribal people. Ten blocks were selected at random from this district and twenty Grama Panchayats were choosen at random. The study encompasses one hundred respondents distributed in twenty villages at the rate of five respondents from each to get a representative behaviour of the tribal women. The information were recorded with the help of structured schedule.

RESULTS AND DISCUSSION

A. Socio-economic study :

Socio-economic status greatly determines the behavioural make-up of an individual and provides always an information for his future success. Hence, the knowledge about the social and economic status of the tribal women provides the social scientists to foresee the behaviour in changed conditions created after launching of different developmental programmes. The different antecedents have been tabulated and analysed as given hereunder :

(i) Age :	Between 18—30 years	28% (28)*
	Between 31—40 years	52% (52)
	Between 41—55 years	20% (20)

It is clear from above that most of the respondents were between the age group of 31—40 years.

(*ii*) Education :	Illiterate	76%(76)
	Literate	16%(16)
	School education	8% (8)

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* Figures in parenthesis indicate the frequency of respondents

The above picture indicates that majority of tribal women are illiterate but those 8% having school education can better be trained to take the leadership for the rest.

(*iii*) Family type : Nucleus .. 28% (28)
Joint .. 72% (72)

Joint family system is still existing in the tribal areas because tribal families obey one-man-family head system.

(*iv*) No. of Children : Two children .. 17% (17)
3-4 children .. 67% (67)
More than 4 .. 16% (16)

Two children norm has not yet fully realised, but the data indicate the faith of tribal women in small family. Only 16% of total respondents have children more than four.

(*v*) Land : Owned .. 4% (4)
Leased in .. 14% (14)
No land .. 82% (82)

Majority of the family, i. e. 82% have no lands which deprives them from being economically sound through agriculture.

(*vi*) Cosmopoliteness : Never visit other village. 27% (27)
Visit block 7% (7)
District .. 2% (3)
Take part in village meetings. 64% (64)

This clearly indicates the importance of village meeting and all developmental programmes should be accepted and sponsored by village committee for its future success.

(*vii*) House type .. Pucca 3% (3)
Semi Pucca 18% (18)
Kachha 79% (79)

The tribals are making their houses pucca slowly and semi pucca by the rehabilitation plan of the Tribal and Rural Welfare (T. R. W.) Department of the State Government.

(*viii*) Annual farm income. Up to Rs. 1,000 86% (86)
Rs. 1,000—2,000 12% (12).
More than Rs. 2,000 2% (2).

The farm income has been found to be very negligible as majority of them have no landed property and building their economic condition with the help of farming becomes difficult.

B. Role of tribal house-wife in home making

TABLE 1

Different areas of engagement of tribal women

Engagement areas	Mean score	Rank
(1)	(2)	(3)
Nursing, schooling and care of the children and family.	3·70	III
Working in own farm ..	2·40	V
As labourers ..	4·10	II
Collection of forest goods and marketing.	4·40	I
Mining ..	3·06	IV

Table 1 depicts that the tribal women give most of their time in collection and marketing of forest goods as this area gets top priority with a mean score of 4·40 out of 5·00. The rest areas of preference in order are labour, nurshing and schooling of children and family members, mining and working in their own farm.

This result indicates that the tribal women at present are practising their traditional occupations like nursing, collection of forest goods, etc. An important finding, i. e. collection of forest goods and marketing mainly relates to cutting down of forest trees and young plants gets first rank and this has become instrumental for deterioration of ecology. Hence it needs special attention of the developmental agencies to provide them alternate engagements for their livelihood. Nursing and family care is indispensable for them; the other suitable areas

Rayagada Section (1)		3,000 ft. Plateau (Koraput Section) (2)		2,000 ft. Plateau (Nawarangpur Section) (3)		1,000 ft. Plateau (Malkangiri Section) (4)	
				Poupulation-range up to 100			
Kisan	1	Korua	3	Matya	1	Kisan	3
Kora	4	Koya	21	Oraon	1	Kolha	4
Korua	37	Kolha	2	Parenga	7	Kolh-Kol-Loharas	11
Kulis	5	Mahali	30	Rajuar	2	Mahali	49
Mahali	17	Munda	16	Sounti	1	Omanatya	57
Mankidi	22	Omanatya	2	Korua	12	Oraon	1
Mirdha	10	Oraon	1			Parenga	10
Omanatya	1	Santal	61			Pentia	27
Oraon	17	Saora	54			Saora	26
Santal	14					Korua	38
Sounti	11						
Tharua	1						
				Population-ranges 100—1,000			
Bhuinya	150	Kolh-Kol-Lohares	162	Banjara	332	Bhuinya	926
Gadaba	433	Madia	444	Kandha Gauda	192	Banjara	233
Kandha Gauda	331	Matya	312	Kondadora	332	Gond	115
Kolha	209	Pentia	104	Korua	768	Munda	147
Koli	180	Sabar	121	Mirdha	562	Santal	985
Koya	152			Santal	620	Sabar	457
Madia	185						
Matya	270						
Munda	794						
Parenga	759						

Population-range-1000—10,000							
Rayagada Section		3000 ft. Plateau (Koraput Section)		2000 ft. Platdau (Nawarangpur Section)		1000 ft. Plateau (Malkangiri Section)	
(1)		(2)		(3)		(4)	
Jatapu	7,950	Kondadora	4,040	Bhuinya	5,317	Bondo-Paroja	5,245
Kolh-Kol-Loharas	1,355	Kotia	2,820	Bhunjia	1,625	Dharua	3,448
Kondadora	3,324	Parenga	2,253	Dharua	2,862	Didayi	2,164
Kotia	2,433			Holva	3,061	Gadaba	4,806
				Kolh-Kol-Loharas	2,033	Gandia	1,173
				Pentia	4218	Holva	2,439
				Saora	5,260	Kandh	5,377
				Sabar	2,284	Kondadora	1,438
						Kotia	1,754
						Matya	2,011
Khond	229,655	Gadaba	23,057	Bhottada	1,90,846	Bhumia	37,201
Paroja	20,680	Khond	96,738	Bhumia	24,264	Koya	58,730
Sabar	58,634	Paroja	77,846	Gadaba	18,145	Paroja	11,361
Saora	132,779			Gond	66,799		
				Khond	19,218		
				Omanatya	17,185		
				Paroja	33,849		

ANNEXURE IV

Shifting cultivation in Koraput district by categories of communities

Categories of community (1)	No land with no shifting cultivation (2)	No land but practising shifting cultivation (3)	Land with no shifting cultivation (4)	With land with shifting cultivation (5)	Total (6)
Scheduled Tribes ..	57,071 (21·96)	25,517 (9·82)	1,31,308 (50·53)	45,975 (17·69)	2,59,871 (100·00)
Scheduled Castes ..	26,706 (45·29)	1,622 (2·75)	28,128 (47·70)	2,515 (4·26)	58·971 (100·00)
Other Classes ..	38,536 (36·33)	2,766 (2·61)	57,679 (54·38)	7,093 (6·68)	1,06,074 (100·00)
Total ..	1,22,313 (28·79)	29,905 (7·04)	2,17,115 (51·09)	55,583 (13·08)	4,24,916 (100·00)

ANNEXURE V

Shifting Cultivation in ITDAS of Koraput district

Name of the ITDA	Scheduled Tribes No land with no shifting culti-vation	No land but practi-sing shifting cultivation	Land with no shifting cultivation	With land with shift-ing culti-vation	Total	Scheduled Castes no land with No shiting culti-vation	No land but pra-ctising shifting cultiva-tion	Land with no shift-ing culti-vation	With land with shift-ing culti-vation	Total	Other Classes No land with no shifting culti-vation	No land but pra-ctising shifting cultiva-tion	Land with no shift-ing culti-vation	with land with shifting culti-vation	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	15·12	14·76	40·26	29·86	..	44·19	7·57	36·96	11·28	..	30·02	5·88	50·35	13·75	..
Koraput	7,934	7,745	21,125	15,668	52,472	4,152	711	3,472	1,060	9,395	7·077	1,387	11,871	3,241	23,576
	13·90	30·35	16·09	34·08	20·19	15·55	43·83	12·34	42·15	15·99	18·36	50·14	20·58	45·69	22·23
	33·16	2·89	58·16	5·79	..	43·74	0·99	53·12	21·15	..	39·69	1·09	56·50	2·72	..
Jeypore ..	12,919	1,125	22,659	2,256	38,959	4,709	107	5,719	231	10,766	7,308	199	10,402	501	18,410
	22·64	4·41	17·26	4·91	14·99	17·63	6·59	20·33	9·18	18·28	18·96	7·19	18·03	7·06	17·35
	22·41	17·09	33·09	27·41	..	61·42	4·10	30·36	4·12	..	42·49	1·67	49·99	5·85	..
Gunupur ..	8,416	6,418	12,427	10,294	37,555	54·20	362	2,679	364	8,825	6,207	244	7,302	854	14,607
	14·75	25·15	9·46	22·39	14·45	20·29	22·32	9·52	14·47	14·96	16,111	8·82	12·66	12·04	13·77
	22·47	22·04	28·22	27·27	..	65·82	4·28	26·19	3·71	..	67·22	0·77	26·79	5·22	..
Rayagada ..	56,897	5,580	71·45	26,903	25,319	2,677	174	1,065	151	4,067	4,097	47	16,33	318	6,095
	9·97	21·87	5·44	15·02	9·74	10·02	10·73	3·78	6·00	6·89	10·63	1·70	2·83	4·48	5·75
	24·75	2·57	67 61	5·07	..	37·97	0·81	59·17	2·05	..	31·44	1·15	63·93	3·48	..
Nowrangpur	16,971	1,767	46,368	3,474	68,580	6,404	136	9,981	347	16,868	10,273	375	20·887	1,137	32,672
	29·74	6·92	35·31	7·57	26·39	23·98	8·38	35·48	13·79	28·60	26·66	13·56	36·21	16·03	30·80
	13·90	7·79	58·36	19·95	..	36·95	1·46	57·59	4·00	..	33·36	4·79	52·12	9·73	..
Malkangiri	5,142	2,882	21,584	7,378	36,986	3,344	132	5,212	362	9,050	3,574	514	5,584	1,042	10,714
	9·01	11·29	16·44	16·04	14·23	12·52	8·14	18·53	14·39	15·35	9·27	18·58	9·68	14·69	10·10
Total	57·071	25,517	1,31,308	45,975	2,59,871	26,706	1,622	28,128	2,515	58,971	38,536	2,766	57,679	7,093	1,06,074
	21·96	9·82	50·53	17·69	..	48·88	2·75	47·69	4·26	..	36·33	2·61	54·38	6·68	..

Tribes (1)	Population 1961 (2)	 1971 (3)
Kolha	743	213
Mirdha	732	10
Sounti	439	1
Banjara	427	565
Bhuinya	364	6,262
Kharia	350	85
Kol	167	46
Juang	154	9
Gandia	132	1,191
Kawar	87	4
Ho	62	112
Chenchu	52	..
Kisan	41	4
Bhumij	20	19
Birhor	13	..
Rajuar	11	2
Korua	7	808
Baiga	55	4
athudi	5	2
Binjhal	5	10
Koli including Malhar	3	..
Mundari	3	..
Tharua	3	50
Unclassified	1,285	55,203
Total	912,343	1,151,231

ANNEXURE III

Distribution of tribes under different population-ranges in different natural divisions

		Population-range up to 100					
Rayagada Section (1)		3,000 ft. Plateau (Koraput Section) (2)		2,000 ft. Plateau (Nawarangpur Section) (3)		1,000 ft. Plateau (Malkangiri Section) (4)	
Bagata	9	Bhottada	10	Binjhal	7	Bagata	14
Bhumia	4	Bhumij	16	Ghara	1	Baiga	4
Bhumij	1	Bhumia	32	Gandia	16	Bathudi	2
Bhottada	44	Bhuinya	5	Ho	11	Bhottada	80
Desua Bhumij	1	Bonda	89	Jatapu	7	Bhumij	2
Dharua	7	Dharua	1	Kharia	2	Bhunjia	10
Ghara	9	Gond	13	Kisan	1	Binjhal	3
Gond	70	Gandia	2	Kolha	6	Desua Bhumij	2
Gandia	1	Jatapu	1	Kol	44	Ghara	6
Holva	1	Juang	1	Kora	15	Jatapu	88
Ho	3	Kandha Gauda	1	Kotia	15	Kandha Gauda	23
Juang	8	Kol	2	Koya	9	Kawar	4
Kharia	81	Kora	6	Mahali	64	Kharia	3

like mining labour, dairy, poultry and piggery, etc., should be developed to accommodate the women labourers.

TABLE 2

Extent of influence of tribal women on their husbands in decision making

Decision areas (1)	Mean score (2)	Rank (3)
Marriage of children	3·52	II
Education of children	3·01	V
Expenditure pattern	3·70	I
Construction of house	3·00	VI
Adoption of new farm innovations	3·20	III
Taking and giving loans	2·80	IX
Health and hygiene practices	2·71	X
Religious practices	2·98	VII
Family planning	2·83	VIII
Household task	3·39	IV
Payment of dowry	2·08	XII
Litigational matter	2·50	XI

A perusal of Table 2 reveals that the tribal women exert their influence more or less on their husband in all the listed items. The three most important areas in order are expenditure pattern, marriage of children, adoption of new farm and home science innovations. The areas on which the tribal women have least influence on their husbands constitute health and hygiene, litigation and payment of dowry. The result is quite logical because the tribal women have very little knowledge on health and hygiene, have little access to litigational matters and they are mostly peaceful and innocent. Dowry being a traditional area is left mostly for elders to take decision. This finding is very much helpful particularly to the extension workers in the field of agriculture and home science to motivate the tribal women because expenditure pattern and adoption of innovations are the two most important areas for the economy of the family. The trend of influence also indicate that the tribal women can suggest their husbands if necessary awareness about family planning and co-operatives can be created.

TABLE 3

Usefulness of Government policy as perceived for their improvement

Policy statement (1)	Mean score (2)	Rank (3)
Small family is a happy family	3·41	II
Outlook of women would be increased by adult education.	3·22	IV
The children should get better nourishment and education.	3·72	I
Dowry should be socially banned.	2·96	VI
Plant and soil loss by deforestation should be stopped and social forestry be implemented.	3·38	III
Innovations about Agril. and Home Science should be quickly adopted.	3·01	V
Spread of liquors should be checked to make responsible citizens.	2·87	VII

Table 3 indicates the policy decisions of the Government to bring improvement in the tribal areas wherein tribal women have some role to play. The seven important policy decisions taken in the study require involvement of tribal women. The tribal women perceive well about children care and education, family planning and the innovations of agriculture and home science. So it is an excellent consolation for the planners and developmental agencies that the attitude of the tribal women at present will definitely boost up the Government programmes. But the Government rules on dowry and liqour seems not to affect them. As these two traditions are very much deep seated in their community till today, they have not perceived well the role of anti-dowry and anti-liquor programmes for their socio-economic development. Some more educational efforts need to be undertaken to mould their attitude which will be congenial for the programme.

TABLE 4

Sources of information utilised by the tribal women

Information sources (1)	Mean score (2)	Rank (3)
Radio ..	4·30	V
V. A. W. ..	3·48	VI
Adult education ..	6·17	IV
Family ..	8·12	I
Friends and relatives ..	7·35	II
Tribal development agency	3·15	VII
Bank and co-operatives ..	..	..
Village leaders ..	7·12	III
Printed materials ..	..	..

The utilisation of information sources by individual members of the society tells much about his personality. For this reason more infotmation sources should be made available to the farm women so that they can better realise their needs. Table 4 reveals the intensity of use of different information sources by the tribal women. Family, friends and relatives and village leaders are found to be the three most important information sources utilised by the tribal women to gather new information. Among the institutionalised sources, adult education comes first followed by radio, V. A. W., tribal development agency, but banks and co-operatives and printed materials are never used by the tribal women.

The above findings is realistic in the sense that family, village leader and peers are very close to them and the institutional sources have some bottle-necks in reaching and educating them. But to maintain high degree of fidelity in communication, more information support should be provided to the tribal women by the institutional sources particularly by the village agricultural workers and tribal development agencies.

Conclusion

The present study illustrates an all round socio-economic status and living pattern of tribal people. The tribal women in particular constitute a labourious bulk who were found to have tremendous potentiality in many areas of engagement. It is also a good sign that the tribal women are quite responsive and have influence on their husbands. They will help the developmental agencies to fortify their educational effort to secure acceptance of the programmes by the tribal families. The national concern of ecological balance for better tomorrow is mostly related to the preservation of fauna and flora. As the tribal labour forces are found to be mostly engaged in exploitation of forests, national policy be prepared to provide them suitable alternate engagements.

The Strategic Deficiency of Tribal Development in Koraput district

P. C. Mahapatro

There has been considerable economic development in terms of high production, income and employment in different sectors of the State of Orissa during the plan period. However, the problem of development of rural poor and tribals remain as great as ever. The conventional welfare approaches have had the effect of perpetuating and reinforcing the dependency and powerlessness of the poor. Evaluation studies of the last thirty-four years of economic planning in India has revealed that "much of the Socio-economic legislation passed by the legislatures has remained paper tiger without teeth and claws.... These legislative and administrative measures have benefitted the people but the benefits have been confined to the upper crust of the weaker sections and they have not reached the lowliest among the low and the weakest among the weak" (1). Thus it is no wonder that the development profiles of tribals of Koraput district is at a lower ebb of the state scenario.

After dealing with a brief background of the district, this paper makes an attempt to analyse the strategic deficiencies of the tribal development programmes undertaken during the plan period and calls for some broad strategies which may be appropriate for tribal development.

Tribal demography in Koraput district

Koraput is the largest district in Orissa and one of the largest in India covering an area of 26,961 square kilometers, which constitutes 17·34 per cent of the total geographical area of the State. It is larger by 4·22 times than Balasore which is the smallest district of the state. Physiographically, a greater part of the district is undulating plateau with a number of hills and mountains.

A special feature of the population of the district is the presence of tribal people in large numbers. The district has the largest concentration of tribal population among all the districts of the State. It contains more than one-fifth of the total tribal population of the State, i.e. 13·73 lakhs out of 50·15 lakhs. The percentage of Scheduled Tribes to the total population of the district is 55·21 per cent which is much higher than of the State average of 22·43 per cent. Out of 62 varieties of ethnic stock found in the State 52 varieties live in the district.

Another distinguishing feature of the settlement pattern of Koraput is that it is predominently rural. An enormous majority of the people forming 88·68 per cent of the total population live in villages. This is much more so in the case of Scheduled Tribe population of the district among whom 97·15 per cent are rural. This indicates the fact that the tribal culture and ethnic character get better atmosphere to flourish in rural areas. However, it has been found that it is the rigour of economic compulsions rather than their love and attachment for age old customs-which have force them to make their economic base in rural areas. The rural concentration of tribals in Koraput as well as in other parts of the State, is indicative of the fact that the economic development programmes since 1951 has not brought about any significant change in the life style of the tribals.

According to 1971 Census, there are altogether 5,683 inhabited villages in Koraput district. Most of these villages are very small in size. These villages are so small that 14·70 per cent of the total Rural population are inhabited in 50·03 per cent of the inhabited villages having less than 200 people in each. This feature makes the rural landscape of Koraput district different from all other districts in the State only with exception of Boud Khondmals. The dotting of small villages in the district make communication difficult and raises the cost of extending infrastructural facilities.

The tribals of the district are found at various stages of development. As many as 13 tribes of the district have been found to be weakest and primitive on the grounds of low percentage of literacy unmodified occupation, remoteness or inaccessibility of the habitat and dependence on shifting cultivation (2).

Tribal Development Strategy during the Plan period

In the earlier plans the strategy of tribal development was formulated in a piecemeal manner. During the 2nd five year plan period two Special Multipurpose Tribal Development Blocks (S. M. P. T) i. e., Kashipur and Narayanapatna were started in the District out of 43 S. M. P. T. Blocks established in the country. The main object of the programme was to bring about a rapid improvement in the economic and social standards of the tribals by supplementing the provision available under the normal community development project. This programme could only cover 7·53 per cent of the total geographical area and 3·50 per cent of the tribal population of the district.

During the 3rd Plan these S. M. P. T. Blocks were renamed as Tribal Development Blocks (T. D. B.) and the programme was further intensified under the recommendation of the Elwin Committee. Twenty-eight more such blocks were created during the 3rd Plan period covering an additional area of 48·34 per cent of the district. However, it was soon realised that the Tribal Development plans could not become effective.

The main object of Development of tribals through activising the traditional Panchayats and tribal councils in the new system of democratic decentralisation remained a day dream. On the other hand, the non-tribals who exercised more powers in the newly formed village Panchayats, Panchayat Samities and Zilla Parishads, took a major share of the benefits from this new programme by diverting funds earmarked for the tribals.

Another strategic deficiency of the programme pointed out by Shilu Ao Committee on the eve of the Fifth Plan is that "the tribal Development Block programme had become too much schematic with the result that there was not much consonance between the problems of the area and programmes undertaken." The supplemental investment by the Government of India in these Blocks tended to be exclusive investment since there was a tendency to treat the problem of these areas as the responsibility of Tribal Welfare Department (3). The Committee also concluded that the Tribal Development Blocks was too small an unit for planning and implementation of major development programmes in these areas and recommended complete overhauling of the programme (4).

The programme has also been adversely commented on the following additional grounds :

(*a*) The T. D. Blocks applied a large number of standardised schemes which was unsuitable in tribal areas,

(*b*) The employment aspect of development was not looked into,

(*c*) Settlement of land disputes at pre-extension stage was not taken up.

(*d*) In many cases Co-operatives have been started by Block Officers without much education or preparation of the tribal people,

(*e*) The Block Authorities started schemes in more accessible areas. (5)

Thus, the strategy of tribal Development through T. D. Blocks came to an end with the end of the Third Five-Year Plan and the beginning of the Fourth Plan period, Six Pilot Projects known as "Tribal Development Agencies" were organised in the country out of which one was organised in Koraput district containing ten Blocks of Rayagada-Gunupur area. The main object of the programme was to bring the tribal population with the main stream of the rest of the population of the country, through the core economic programmes like agricultural development, land restoration, strengthening of co-operative societies and encouragement of agro and forest based industries.

The entire question of tribal development was comprehensively reviewed on the eve of the Fifth Five-Year Plan. In order to cover wider areas inhabited by tribals, it was decided to formulate a suitable strategy during the Plan for (i) development of areas having more than 50 per cent Tribal concentration, (ii) the development of dispersed tribals and (iii) areas with primitive tribal communities at pre-agricultural level of technology.

The broad objectives of the new strategy were

(*a*) to narrow down the gaps between the levels of development of tribal areas and other areas or;

(*b*) to improve the quality of life of tribal communities ; and

(*c*) achieving social and cultural integration of tribals with rest of the society. (6)

"It was indicated that tribal sub-plans should be drawn up in such areas as might present an integrated view of their problems, the broad objectives and strategies, an outline of the various programmes, physical inputs, financial aspects and legislative and administrative frames. It was also pointed out in the guidelines that the regions of tribal concentration on sub-plan areas in each state should comprise of a number of viable projects. For each such Integrated Tribal Development Project (I. T. D. P.), an integrated area development plan focussing attention on the specific problem of the area and the people needed to be formulated." (7)

The tribal sub-plan was based on three tire structure involving micro, meso and macro level of planning. The micro unit was co-terminus with development blocks. The project area comprising a number of contiguous blocks was taken at the meso level. Two or more tribal development projects taken together would represent the macro level. Thus the new strategy envisaged multi-level planning.

At first it was necessary to identify areas with more than 50 per cent tribal population. The next in the direction was to identify different tribal communities inhabiting in each area and find out their specific problems. Delineation of the basic planning units and the potential centres where correct and adequate investment has to be made in order to generate growth in the area in an integrated manner was the third step in the process.

It was also suggested that the project area should be coterminus with the existing adimistrative boundaries and should cover one or more full Tahsils of a district. The quantum of expenditure was to be determined according to the level of development—the more backward an area the more intensive had to be the development efforts in each sector. All types of exploitations, i. e., indebtedness, land alienation, bonded labour, etc., were to be checked by providing credit facilities through LAMPS, supply of lands to shifting cultivators and other landless tribals, input assistance and a host of such other programmes.

Accordingly, Project Reports with reference to six I. T. D. Ps. in the district were prepared and the sectorwise and areawise investment needed were quantified. Besides, two Micro Projects, i. e., Bonda Development Agency and Dongaria Kondh Development Agency were prepared for concentrated socio-economic development of primitive tribes in the region.

The programmewise selected physical targets in the Integrated Tribal Development Projects in the district indicated in the following table, seem to be satisfactory. The main crux of the rural areas are irrigation, soil conservation, horticulture and social forestry development programmes and the restoration of alienated lands back to the tribals. Though the progress in these and such other fields appear to be attractive, yet in comparision to the problems of tribal society it is quite insufficient.

TABLE I

Programmewise selected achievements in the Tribal Sub-Plan Areas of Koraput district

Sl. No. (1)	Programme and reference year (2)	Physical Achievement (3)	No. of S. T. beneficiaries (4)
1	Restoration of alienated lands to Tribals up to 1977-78	10,603 acres	4,583
2	Ceiling Surplus land distributed to tribals up to 1984 ..	16,688 acres	11,040
3	Area brought under Soil Conservation and Horticulture (1979-80 to 1983-84).	55,323 acres	
4	Irrigation potential created (1980-81 to 1983-84) ..	58,370 hectares	
5	Afforestation (1982-83 to 1983-84) ..	8,073 hecteres	

Computed from the District Development Office, Koraput

A study of the strategy of the Tribal Development Programmes implemented and the physical achievements gained so far leaves one in doubt about the actual benefit derived by tribals of the target group in the district. A number of empirical studies, on the other hand, indicate that larger percentage of benefits have been sallowed by the non-poor section belonging to tribal and non-tribal elite and only trickling down benefit have reached the tribals of the target group. The successful stories in respect of the tribals of the target group are few and far between.

The Strategic Deficiency

The strategy of tribal development during the last thirty-four years of planning lack both cohesion and drive. Tribal Development Programme was at best a comprehensive welfare programme rather than an integrated plan of development till the end of the Fourth Plan. In respect of Orissa State, it was observed that between the plans, the growth rate of investment for Scheduled Tribe under the Backward Classes Welfare Sector was much less than the growth rate of investment under the general sector. While the total State outlay increased from Rs. 20·07 crores in the 1st Plan to Rs. 226·60 crores in the Fourth Plan (i. e. about eleven times), the outlay under Backward Class Welfare Sectot under Scheduled Tribes increased from 2·28 crores to Rs. 10·12 crores (i. e. about 4·5 times) during the same period. These figures further reveal that the percentage of expenditure on Scheduled Tribes under Backward Classes Welfare Sector to the total plan expenditure decreased from 11·36 per cent to 4·54 per cent between the 1st Plan and 4th Plan period. Thus imperceptibly for the common man there was a gradual fall in expenditure incurred on Scheduled Tribes under Backward Classes Welfare Sector. This meagreness of outlays on isolated schemes like payment of subsidies to Cottage industries, supply of bullock and seeds, subsidies for housing, establishment of colonies, grant of legal aid and running of a few residential Ashram Schools here and there proved ineffective for bringing about any appreciable change in the economic standard of the tribals.

Hence, it is natural to find that the tribals of the district are much below the subsistence level. A survey conducted by the Research Wing of the State Tribal and Harijan Research-*cum*-Training Institute during 1967-68 revealed that the *per capita* income of primitive tribal people of the State is as low as Rs. 158·40 at current prices as compared to the State average of Rs. 433·76 (8).

(a) Structural Deficiency

The *ad hoc* nature of the earlier Tribal Development Programmes and the lack of integrated character of the area development programme under the tribal sub-plan are the main limitations. The identification process of the target groups was faulty in as much as a larger number of non-poor tribals availed the benefits from the I. T. D. A. "In many cases the Integrated Tribal Development Project represented more dis-aggregation of the State Plan outlays and there was inadequate assessment of the results of the past programmes, even in cases where priorities have been identified, the programme did not take that into consideration. In many cases there was no evidence of involving the local community at the time of Project formulation. It was also noticed that in many projects specific problems and requirements of the areas were not reflected" (9).

Out of the three models of Organisation of I. T. D. P. followed in different States, Orissa is following the Agency model. In this model it is envisaged that all administrative and financial powers are to be delegated to the Agency but the fact remains that all the administrative and financial powers still rests with the State Government. Diversion of funds from one head to another head is still subject to approval of the State Government. "Planning for the Agency level is still done at the State Secretariate level. The administrative structure of the Block and the Project level is still very much diffused. The Project Officer has to function as the co-ordinator and he always found it difficult to get certain schemes implemented through different agencies which are supported to work under the agency system" (10). Thus, the whole Tribal Development Programme need an urgent over haulting and a 'buttam up' administrative pattern with the help of traditional village hierarchy be evolved so that it may cater to the real needs of the tribal people" (11).

(b) Absence of monitoring and evaluation

At present the Project Administrator gets the feed-back from the lower functionaries such as block level officers of concerned district level officers. At district level a review is generally made by the district level authorities. At the State level, the programmes are supervised by the respective Heads of the Departments and co-ordinated by the Tribal Development Commissioners. The evaluation made by the Harijan and Tribal Research-*cum*-Training Institute is limited. In the centre also no well set system of monitoring has been evolved. Even the prescribed tables and schedules by the Planning Commission, to be included in the Annual plan document, do not convey up-to-date position of the progress made on different schemes of Tribal Development.

(*c*) Financial insufficiency

The subsidy based approach and earmarking of funds for specific schemes of tribal development have proved contrary to the principle of channalisation of finance in the priority area of development. Mis-utilisation, non-utilisation and even insufficiency of funds in the high priority schemes which have proved successful have proved great obstacles on tribal development.

(*d*) Neglect of the Traditional Tribal Village institutions in the Tribal Development Programmes :

Democratic de-centralisation in the planning process can be achieved only through the participation of tribals in the planning process. The family based and community based programmes can be explained to the tribals through their traditional institutions like Panchayats and Naiks (head-man) and their consensus taken in each and every programme. The involvement of traditional institutions can play an important role for the successful implementation of various schemes of development. Unfortunately, these institutions have never been involved in either the formulation process or in the operational part of tribal development programmes.

Development Strategies

Broadly speaking three types of strategies for tribal development have to be taken simultaneously. They are the (*i*) Socio-economic development strategies, (*ii*) Spatial development strategies and (*iii*) Administrative development strategies which are briefly discussed below.

(*i*) Socio-economic Development Strategies

The concept of tribal development presupposes a realistic appreciation of the functional basis which sustains their socio-economic back wardness. It should be followed by a proper identification of target groups who are to be brought under specific programming directed to change their functional basis of their deprivation and economic backwardness. The specific programming should be considered as a distinct component of general strategy of development for increasing production and productivity.

These programmes of rural development should include a wide range of mix of activities such as agriculture and allied activities, rural industries, transport and communication, marketing of inputs and outputs, credit, health and education which contribute in some significant way or other for improving the productivity and production technology of the tribals.

(*ii*) Spatial Development Strategies

It is now increasingly realised that the growth pole' approach in the country has led to concentration of economic functions at few urban centres while the vast hinterlands of the country remain backwards with little economic linkages with the former. Such a situation tends to resist socio-economic integration between the centre and the periphery. Therefore, a spatial strategy of development, as a specific component of over all strategy, need to be evolved for inducing in the economy a more homogenous growth process on space. One of the way of inducing homogenous process of development on space is the deliberate effort for creating intermediate centres of varying functional role which can be located on settlement scale. In this process, economical and social functions are dispersed in a larger number of small and medium sized centres in an hierarchical structure in such a way that people living in the periphery may find easy access to the functions at various spatial levels. This calls for the development of a hierarchy of central places like central villages, market centres, service centres, growth points and growth centres, for inducing a new functional relationship of production and distribution. This would promote multiple economic linkages among the different spatial units and then would produce an appropriate spatial framework for socio-economic programmes to find full fusion in terms of generating multiplier consequences on space.

(*iii*) Administrative Development Strategies

The present administrative system lacks simplicity and quickness in implementation. This complex administrative structure has to be moulded to put in the traditional tribal system, both at the level of formulation and implementation of planning. Decentralisation of power should proceed the decentralisation of planning process-both at the formulation as well as at the implementation stage. The project planning team headed by the Project Officer need to be ensured relatively greater freedom in the selection of appropriate schemes of development suiting to the specific problems of the region.

The Project Officer should also have necessary administrative control on the various officials responsible for implementation of development schemes in the project area. He should also be made responsible for any success or failure of the programme. A separate cader of officials possessing the 'will and drive' to work in tribal areas has to be created. Extra financial incentives and other aminities need to be provided to them in consonance with the inconveniences under which they are expected to achieve their targets.

Voluntary organisation have an important role to play in creating consciousness among the backward class for their development needs, mobilisation of support to various programmes and their effective implementation. Such voluntary organisation who can help the administration in achieving the goals of development early need to be patronised.

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Study of Selected Dermatoglyphic characters of two Tribal populations of same Neighbourhood

S. K. Ghosh Maulik

As dermatoglyphic characters of finger tips and palm are under close genetic influence, these are used by the anthropologists as discriminative characters for studying human variation. There has been considerable improvement in the method of analysis during last one hundred years. Penrose (1949) emphasized the use of 'atd' angle variation as an useful marker which was subsequently improved by Geipel and Weninger. Sharma in his various papers discussed about metrical analysis and method of taking prints for this particular character. Comparatively the 't—d' ridge count and its correlation with the 'atd' angle has been paid much less attention.

The Study populations :

The two populations from which samples have been drawn are (i) Didayi and (ii) Bhumia living in villages around Kudumulugumma (Block). Both the populations share the same environment and are primitive in technological aspect, education, health and economy. Farming activities are supported or supplimented by collection from the jungle. A large section of the Didayis live in the hills but the Bhumias are plains dweller. Both the tribes are genetically isolated from each other, but there are few cases of intermixtures. Some study reports on these populations are available, so no attempt will be made to give their social identification.

Sample—A sample of 75 individuals (male : 54 female : 21) of Didayi and 115 Bhumia (male : 74 female : 41) were taken in 1973-74, as a part of a study project. A total number of 380 palm prints of both the hands have been considered, because quite a considerable number of prints from the individuals had to be rejected. Main cause of rejection is obliteration of the digital tri radii due to corn formation, which is very common due to prolonged use of axe.

Method of print collection and analysis :

Palm prints were collected from both the hands in the most convenient way by applying ink on the palm and keeping a small cotton pad below the paper to ensure good print of the hollow region of the palm. Care was taken to keep the palm in normal flexed condition as suggested by Berg and also Sharma. The 'atd' angle is slightly affected if there is too much streching which is not in case of the t-d ridge count. Often the position of the axial tri radius is altered either in the proximo-distal or in the medio-lateral position. It has been suggested that in such cases both the angle and the count differs. It has become conventional to record maximal reading in case of the angle and minimal count for the ridges. Though such methodologi-cal difficulties are encountered, these two quantitative characters have been accepted as very useful discriminant in palmar characters.

Analysis and interpretation :

Following the methods of J. Mavalwala (1963) and S. B. Holt (1968) the data have been analysed and shown in table 1 and 2. Mean of the angle and ridge-count have been shown along with standard error and standard deviation.

TABLE 1

Maximal atd angle among the Didayi and Bhumia

Population	Sex No.	Left hand mean angle in degree	s. e.	s. d.	Right hand mean angle in degree	s. e.	s. d.
Didayi	Male 54	39.1	0.54	4.02	38.5	0.66	4.92
	Female 21	40.3	1.24	5.70	41.4	1.03	4.70
Bhumia	Male 74	42.0	0.82	7.21	41.2	0.82	7.23
	Female 41	41.1	1.04	6.70	41.1	0.89	5.72

The maximal atd angle among the Didayis is 39.1 degree in the left palm as against 38.5 degrees in the right, in case of the male but the females of the same population show higher divergence in both the palms (above 40°). There is no statistically significant bilateral or bisexual difference.

The Bhumia males show 42° and 41.2° angle in the left and right hands respectively ; but the females show similar mean measurement in both the hands. Bhumias also do not exhibit any significant difference between the sexes or the sides.

Both the populations present a very close nature of occurrence of the mean measure of the atd angle with the Didayis having comparatively low score.

TABLE 2

Minimal t-d ridge count among the Didayi and Bhumia

Population			Left			Right		
	Sex	No.	Mean count	s. e.	s. d.	M. count	s. e.	s. d.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Diday	Male	54	108·3	2·1	15·6	107·8	1·8	13·2
	Female	21	90·5	1·6	7·4	85·4	2·7	12·4
Bhumia	Male	74	89·8	1·9	16·8	90·4	1·8	15·6
	Eemale	41	102·7	0·6	4·2	101·5	0·94	6·0

Minimal count of t-d palmar ridges of the two populations have been presented in table—2. The Didayi males show highest occurrence of ridges in between the two tri radii t and **d**. They exceed the mean count of their female counterpart. But an opposite picture is obtained in case of the Bhumias, where we see the females exhibit higher count than the males of their own group. No apparent reason can be assigned for bisexual variation in the above two population samples.

In table 3, the data have been summed up as averages of the means and respective standard deviation for the sake of easy comparability. The Didayi show mean of 39·8° for atd angle which is 42·6° in the Bhumias. The mean of t-d ridge count among the Didayis is 97·9 and among the Bhumias it is 96·1. The two groups exhibit a significant difference in the atd angle (t-2·2, significant at 5 per cent level of probability).

TABLE 3

Some statistical Estimations of the Traits

Populations	No.	atd angle mean	s. d.	t-d count mean	s. d.	Coeff, of cor. (r)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Didayi	75	39·8	4·8	97·9	12·1	—0·02
Bhumia	115	42.6	6·7	96·1	1·6	—0·06
	t-2·2			t-0·73		

There is no significant difference between the groups in t-d ridge count. Both the tribes show a negative correlation between the traits.

Discussion

Discriminative efficiency index of the atd angles and t-d ridge counts, using the sums of the characters and average of the means, was calculated as suggested by Penrose and Smith (1966) and Berg (1968). The values are given in table 4.

TABLE 4

Discriminative efficiency indices of the two Characters

Populations	Sum of angles		D	S	I	Sum of count		D	S	I
	Mean	S.D.				Mean	S. D.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Didayi ..	79·9	9·6	2·9	11·4	0·6	196·0	24·3	3·9	22·8	0·03
Bhumia ..	82.8	12·9								

It appears that the angles atd is slightly wider in the left hand than the right hand of males in both the groups. The wider angle depends not only on the divergent positions of the tri radius 'a' and 'd' but on upward positions of the axial tri radius(t). It has been suggested (Geipel, Weninger (1973) that the length-height index of the hand has got certain relation with the atd angle. Weninger ('73) also suggested physical constitution and racial affiliation of the subjects are important criteria to be considered. The indices of discrimination and 't' values of comparision do not detect any good degree of difference between the populations, in these two characters. These two groups are neighbouring and have been living under similar ecological conditions for a considerable longer time. They have got very close physical resemblances though are genetically isolated. Obliteration of variation in genetic character of complex nature cannot be explained very easily. Negative correlation between these two characters are also reported by Mukherjee (1967) on Bengalees and Barg (1968) on Englishmen.

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